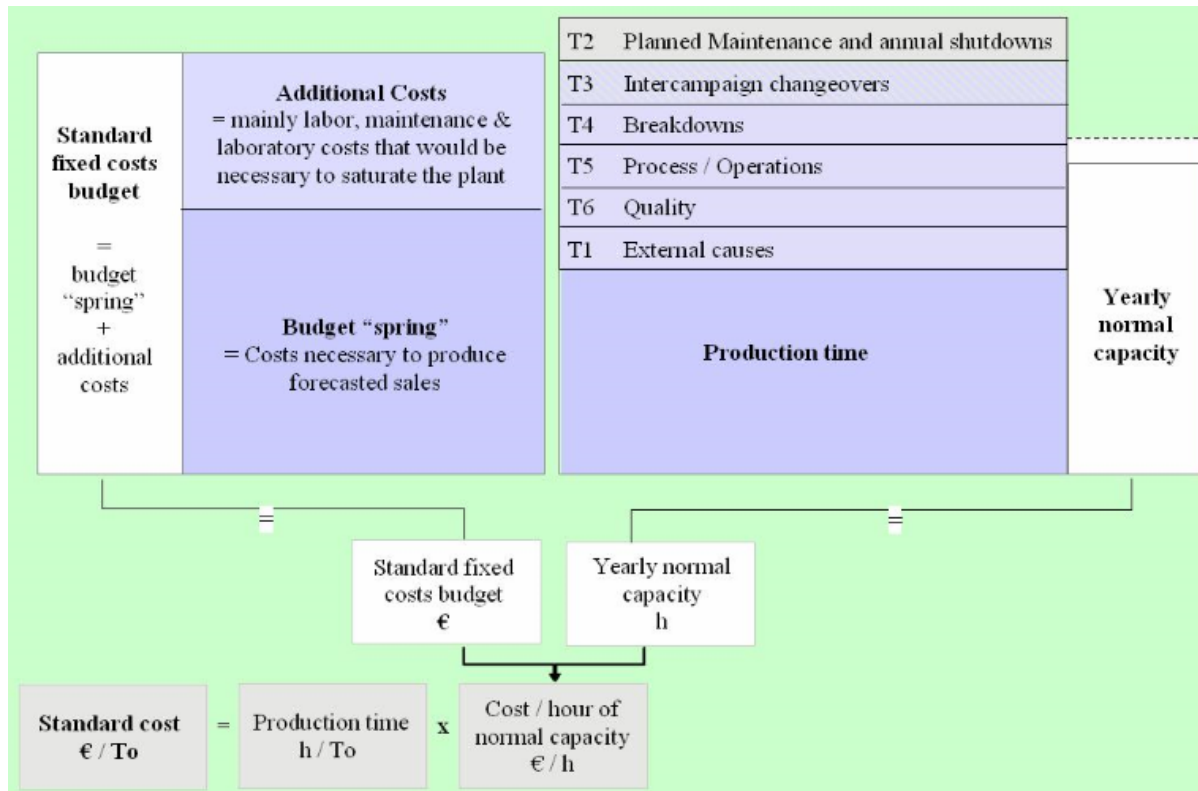


S03.02-IS-01-R112-I.4-Normal capacity

Normal capacity

1. General rule

- The “normal capacity” is the total number of machine hours in a year decreased by the number of hours lost because of technical constraints and for which recipe production time doesn't include any allowance.
- It corresponds to the total time (365 days x 24h) without causes (T2) and (T3) if (T3) has not been taken into consideration in product recipes. It should be based on OEE (**Overall Equipment Efficiency**) model.
Note that it is possible to include (T3) in the recipes' production time. In that case, these times are also included in the “normal capacity”.



- **T1: External causes stoppages:** lack of sales, lack of supplies due to suppliers or carriers' failures (material and energy), force majeure, general strike (i.e. not specific to the site like national strike).
- **T2: Planned Maintenance and annual shutdowns**
- **T3: Intercampaign changeovers**
- **T4: Breakdowns**
- **T5: Process / Operations:** low speed / cycle time not respected, lack of supplies due to internal failures (missing orders, wrong planning...), local strike (i.e. specific to the site or to the workshop)
- **T6: Quality:** scrap, and non-sellable without rework or recycling product
- The “normal capacity” has to be calculated with OEE data of the last twelve months
 - **excluding the non-recurring events**
 - **except planned maintenance (T2), that must be based on forecast for the next year.**

2. Other constraints:

The normal capacity can be decreased by other constraints such as legal constraints or production bottleneck.

A production bottleneck is a stage in a process that causes the entire process to slow down or stop.

3. Definition of unit standard fixed costs - general rule

The standard unit fixed cost is a production time multiplied by an hourly rate:

- The hourly rate is the “standard fixed cost budget” divided by the “normal capacity”
- The production time is the time necessary to produce one unit. It is defined in the recipe of each material.

4. Definition of unit standard fixed costs - sub-products

When a production process results in two products or more:

- The product used for MRP (**Material Requirement Planning**) is called main product,
- Other products that need valuation are either "**recipe-based costing**" sub-products, "**manual costing**" sub-products, off-specification products or marketable wastes.

"**Recipe-based costing**": Recipe-based costing sub-product absorbs fixed costs because it participated to the justification of:

- The investment, driving the capacity of the installation which manufactured it,
- The plant acquisition, having a positive gross margin in the business plan supporting that acquisition.

"**Manual costing**": They don't absorb any fixed costs. Their valuation is based on their net realizable value that is the average net selling price decreased by variable selling expenses.